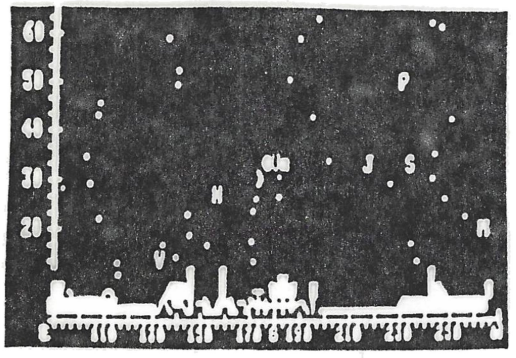
CELESTIAL BASIC USERS GROUP



NEWSLETTER

from Eric Burgess F.R.A.S.

30 APRIL 1983 - CBUSER1
A SERVICE TO USERS OF CELESTIAL BASIC BY ERIC BURGESS F.R.A.S.

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I appreciate the letters and phone calls in connection with my book and plan to keep readers of the book and users of the diskettes updated on improvements and debugging when appropriate.

The following changes are advised for the programs as printed. If you have a diskette please check it for these corrections too.

p.12 In the program CALDR, line 2850, add ; before TAB
p.31 Add line 265 in the JULDY program:
IF M2=0THENDY=0
p.34 Delete line 440 from the CDATE program
p.41 EPOCH: In this program, as in most of the following programs, numbers are truncated by converting them to a string and then using LEFT$. However, this technique results in an error with computers that express numbers less than .00001 as an exponential. While the error is rare, if you feel you need to avoid it, you can add two lines before the line creating the string: namely,
IF X<.00001 AND X> 0 THEN X=.00001
IF X<-.00001 AND X<0 THEN X=-.00001
p.45 Add line 355 to the PSTAR program
IF M=0 THEN D2=0
p.100, 101. The MVENC program will find elongations more quickly and accurately if the following lines are changed as shown:
2300 IF FL=0 AND ABS(DS)<15 THEN D=D+7:GOTO2350
2320 IF CK<.06 AND CK>-.06 THEN 2400
2330 IF ABS(DS)<18 THEN D=D+4:GOTO2350
2750 IF FL=0 AND ABS(VS)<40 THEN D=D+20:GOTO2800
2780 IF ABS(VS)<45 THEN D=D+10:GOTO2800
p.119 Correct line 80 in RISES to read:
80 DEF FN DEG(X)=57.29578
p.123 Correct line 2170 in RISES to read:
2170 V(3)=SIN(A(3)+3.14169)*23.44194
p.124 Line 2830 in the RISES program should read as follows:
IF LMD<-3600 THEN LMD=LMD+3600:GOTO2830

p.168 Correct line 840 in the JSATS program to read:

```
840 IF MC>2 THEN 870
```

p.169 Correct line 1360 in JSATS to read:

```
1360 IF S4>0 then S4=0-ABS(S4)
```

p.229 Add line in PLNDT program:

```
6025 IF N=24 THEN S$="UMBRIEL":Q=3:GOTO6690
```

p.230 Correct line 6830 to read:

```
6830 IF F=1 THEN F=0:GOTO4710
```

p.231 Correct line 7210 to read:

```
7210 GOTO 5590
```

p.238 Correct lines 500 and 530 in PHOTO program:

```
500 AO=AO*25.4
530 FO=FO*25.4
```

p.240 Add the following line to the PHOTO program:

```
1185 IF EX<.01 THEN PRINT "THE EXPOSURE IS ";EX;" SEC":GOTO1210
```

p.249 Sometimes a /0 error will occur on line 1170 because of computer rounding. This can be avoided by substituting the following three lines of code for line 1170 in SKYPLA.

```
1165 X=SQR(((P*(P-D(I)))/(D(3)*Q)))
1170 IF X>=1 THEN X=.99999
1175 X=2*FNACO(X)
```

p.249 Correct line 1210 of SKYPLA to read:

```
1210 IF R>24 THEN R=R-24:GOTO1210
```

p.249 Sometimes if a planet is exactly on the meridian the program will crash when it tries to calculate line 1310. This can be overcome by substituting the following lines 1305, 1310, 1312, and 1315 for 1310 in SKYPLA:

```
1305 AZ=(SIN(V)-SIN(LA)*SIN(AL))/(COS(LA)*COS(AL))
1310 IS AZ=>-1 THEN GOTO 1315
1312 AZ=-.9999
1315 AZ=FNACO(AZ)
```

p.257 of SKYPLA program: A similar sequence to the above can be used in place of line 5540 for calculating MZ for the Moon.

ON DISKETTES issued before April 30 1983 there were several additional errors in the JSATS program. Please check lines 990 and 1260 with the book listings. Some diskettes have 80.23451687 instead of 50.23451687. If you still have trouble with the JSATS on the diskette, check it line by line with the book listing as amended by the changes to lines 840 and 1360 listed above.